4.15 UTILITIES/SERVICE SYSTEMS

This section includes an evaluation of potential impacts for identified Utilities/Service Systems that could result from implementation of the projects. Utilities/Service Systems include wastewater treatment facilities, storm drainage facilities, water supply and treatment, solid waste disposal, and energy consumption. The impact analysis provides an evaluation of potential impacts to Utilities/Service Systems based on criteria derived from the California Environmental Quality Act (CEQA) Guidelines in conjunction with actions proposed in Chapter 3, Project Description. Development Design & Engineering prepared a Water Supply Assessment (WSA) in September 2011 for the projects. The WSA is included as Appendix K of this Environmental Impact Report (EIR).

The Initial Study/Notice of Preparation (IS/NOP) prepared for this EIR determined that impacts with regards to solid waste disposal and policies and wastewater treatment would be less than significant. The project does not require new storm drainage facilities because the proposed solar facilities would not generate a significant increase in the amount of runoff water during operations. Water from solar panel washing would continue to percolate through the ground, as a majority of the surfaces on the project sites would remain pervious; therefore the Initial Study concluded that the project would not result in an impact with regards to new storm drainage facilities. Therefore, solid waste disposal, wastewater treatment and storm drain facilities will not be discussed further. The Initial Study/Notice of Preparation is included Appendix A of this EIR.

4.15.1 Environmental Setting

Water

Approximately one-fifth of the nearly three million acres in Imperial County is irrigated for agricultural purposes. The Imperial Valley area is the south-central part of Imperial County and is bounded by Mexico on the south, the Algodones Sand Hills on the east, the Salton Sea on the north, San Diego County on the northwest, and the alluvial fans bordering the Coyote Mountains and the Yuha Desert to the southwest. The Imperial Valley area encompasses a total of 989,450 acres. Imperial Valley land that is irrigated for agriculture consists of 512,163 acres. The developed area, which includes Imperial County's incorporated cities, unincorporated communities and supporting facilities, comprises approximately 1% of Imperial County's area. The Salton Sea accounts for approximately 7% of Imperial County's surface area.

The source of nearly all surface waters in Imperial County is the Colorado River. The water is diverted from the Colorado River at the Palo Verde Weir north of Blythe by the Palo Verde Irrigation District for use in the Palo Verde Valley of northeast Imperial County and southeast Riverside County; and at the Imperial Dam into the All-American Canal by the Imperial Irrigation District (IID) and the Bard Irrigation District for use in the Imperial, Yuma, Bard, and Coachella Valleys. The 82-mile All-American Canal, the three-mile New Briar Canal, and 52 miles of drains are owned by the Bureau of Reclamation and are operated and maintained by IID. The IID was formed to acquire properties of the bankrupt California Development Company and its Mexican subsidiary. By 1922, the IID had acquired 13 mutual water companies and was delivering water to nearly 500,000 acres. Since 1942, water has been diverted at Imperial Dam on the Colorado River through the All-American Canal, all of which the IID operates and maintains. IID owns and operates a 1,590-mile network of main canals and laterals to serve approximately 500,000 acres of irrigated farmland. Today, the IID serves irrigation water and electric power to farmers and residents in the lower southeastern portion of California's desert (Development Design & Engineering, Inc. 2011).

Approximately 97% of IID's water is used for agricultural purposes. The remaining 3% of its water deliveries supply seven municipalities, one private water company and two community water systems, as well as a variety of industrial uses and rural homes or businesses.

The IID has a specific area that it is responsible for supplying water to, which is referred to as the Imperial Unit. In addition to agricultural irrigation, the Imperial Unit includes the seven incorporated cities of Brawley, Calexico, Calipatria, El Centro, Holtville, Imperial and Westmorland. The three unincorporated communities in the Imperial Unit are Heber, Niland and Seeley (Development Design & Engineering, Inc. 2011).

Energy

The IID supplies electricity to Imperial County. IID's 2010 Integrated Resource Plan (IRP) addresses the current challenges to meet retail load requirements, adapt to new renewable energy portfolio standards and reduce greenhouse gas emissions. The IRP includes implementation of energy programs necessary to reduce current energy load by at least 5% by 2015, with a 10% reduction goal set for 2020. In addition, the Plan calls for generating 20% of energy requirements for its service area from renewable sources by 2012, 23% by 2014, 26% by 2017, and at least 33% by 2020; and reducing 2009 greenhouse gas emission levels by at least 35% by 2020. The IID is also implementing an energy efficiency program with the goal of reducing peak demand by up to 50 megawatts (MW) within five years (IID 2010).

4.15.1.1 Regulatory Setting

This section identifies and summarizes Federal, State, and local laws, policies, and regulations that are applicable to the projects.

State

Urban Water Management Planning Act - Assembly Bill (AB) 797

The Urban Water Management Planning Act was established by Assembly Bill 797 (AB 797) on September 21, 1983. Passage of this law was recognition by state legislators that water is a limited resource and a declaration that efficient water use and conservation would be actively pursued throughout the state. The law requires water suppliers in California, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet per year (AFY) of water, to prepare and adopt a specific plan every five years which defines their current and future water use, sources of supply and its reliability, and existing conservation measures.

California Water Code

California Water Code (Water Code) Sections 10656 and 10657 restrict state funding for agencies that fail to submit their urban water management plan to the Department of Water Resources. In addition, Water Code Section 10910 describes the WSA that must be undertaken for projects referred under Public Resources Code (PRC) Section 21151.9, including an analysis of groundwater supplies. Water agencies are given 90 days from the start of consultation in which to provide a water supply assessment to the CEQA lead agency. Water Code Section 10910 also specifies the circumstances under which a project for which a WSA was once prepared would be required to obtain another assessment. Water Code Section 10631, directs that contents of the urban water management plans include further information on future water supply projects and programs and groundwater supplies.

California Senate Bill 610

California Senate Bill (SB) 610 is an act that amended Section 21151.9 of the Public Resources Code, and Sections 10631, 10656, 10910, 10911, 10912, and 10915 of the Water Code. SB 610 repealed Section 10913, and added and repealed Section 10657 of the Water Code. SB 610 was approved by the Governor and filed with the Secretary of State on October 9, 2001, and became effective January 1, 2002.

Under SB 610, water supply assessments must be furnished to local governments for inclusion in environmental documentation for certain projects (as defined in Water Code 10912 [a]) subject to CEQA. Due to increased population, land use changes and water demands, this water bill seeks to improve the link between information on water availability and certain land use decisions made by cities and counties. As per California Department of Water Resources policy, "Even though a water supplier may not be a 'public water system' or become a 'public water system' as a result of serving the proposed project, it will still be involved, in a consultation role, in the preparation of the assessment." SB 610 takes a significant step toward managing the demand of California's water supply as it provides regulations and incentives to preserve and protect future water needs. The intent of this bill is to coordinate local water supply and land use decisions to help provide California's cities, farms, rural communities and industrial developments with adequate water supplies.

Project Determination According to SB 610

Senate Bill 610 - Water Supply Assessment

With the introduction of SB 610, any project under (CEQA) shall provide a Water Supply Assessment if:

- The project meets the definition of the Water Code Section 10912:

  For the purposes of this part, the following terms have the following meanings:

  (a) ''Project'' means any of the following:

  (1) A proposed residential development of more than 500 dwelling units.
  (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
  (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
  (4) A proposed hotel or motel, or both, having more than 500 rooms.
  (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
  (6) A mixed-use project that includes one or more of the projects specified in this subdivision.
  (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

  (b) If a public water system has fewer than 5,000 service connections, then ''project'' means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10% or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10% or more in the number of the public water system's existing service connections.

After review of Water Code Section 10912, the solar facilities are deemed "projects" because they propose a demand of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project; and/or because they are a proposed industrial use occupying more than 40 acres of land.

It should be noted that California enacted SB 267, amending the California Water Code's Section 10912 definition of a "project" that would trigger a WSA. The amended definition excludes low-water demand photovoltaic projects. Specifically, SB 267 states, "A proposed photovoltaic or wind energy generation facility approved on or after the effective date of the amendments made to this section at the 2011-12 Regular Session is not a project if the facility would demand no more than 75 acre-feet of water annually." (California Water Code §10912 (a)(5)(B). However, collectively, the proposed projects would create an annual water demand greater than 75 acre-feet; therefore, a WSA has been prepared for the projects.

4.15.1.2 Existing Conditions

The project study area is currently undeveloped agricultural land. Existing agricultural water service for the project study area is currently serviced by numerous IID canals. Estimated agricultural water consumption for the project study area based on 10 consecutive years (2001-2010) of delivery records from IID is illustrated in Table 4.15-1.The 2009 apportionment for agricultural lands in Imperial Valley was used to estimate the project study area's agricultural water consumption.

TABLE 4.15-1. ANNUAL WATER DELIVERY AVERAGE FOR PROJECT STUDY AREA (2001-2010)

Project Component	Annual Average (acre-feet per year)	10-Year Total (acre-feet per year)
Mount Signal Solar I	5,643.43	56,434.3
Calexico Solar I	7,516.85	75,168.5
Calexico Solar II	6,428.45	64,284.5
Total	19,588.73	195,887.3

Source: Development, Design & Engineering 2011.

The estimated water usage for the project study area is based on the 2009 annual apportionment for agricultural lands in Imperial Valley, which is 5.25 AFY and from IID Regulations of Equitable Distribution Plan Revised April 7, 2009.

To establish the estimated annual agricultural water usage for the project study area and its individual components, 5.25 AFY has been multiplied by the project study area and the individual site areas as follows:

Annual Water Usage for Mount Signal I

- 5.25 acre-feet per year x 1,430 +/- acres = **7,507.5 +/- acre-feet**

Annual Water Usage for Calexico I (A and B)

- 5.25 acre-feet per year x 1,330 +/- acres = **2. 6,982.5 acre-feet**

Annual Water Usage for Calexico II (A and B)

- 5.25 acre-feet per year x 1,470 +/- acres = **7,717.5 +/- acre-feet**

Total Annual Water Usage for the Total Project Study Area

- 5.25 acre-feet per year x 4,230 +/- acres = **22,207.5 +/- acre-feet**

The water for the projects will be supplied by IID. The IID's Interim Water Supply Policy (IWSP) allocates 25,000 AFY for non-agricultural projects, and is to remain in effect pending the approval of policies that will be adopted in association with the Final Imperial Water Resource Management Plan (IWRMP), which is projected to make available up to 50,000 AFY of water for similar uses. Of the IWSP's 25,000 AFY, IID has only approved one water supply agreement in the amount of 800 AFY for the Hudson Ranch I Project. IID recognizes having a remaining balance of IWSP water in the amount of 24,200 AFY, as noted in four letters from IID to Jesse P. Silva dated August 16, 2011, as well as in another letter dated September 1, 2011 (WSA 2011).

Energy

The project study area is primarily undeveloped by utilized for agricultural production. There are a couple of farm houses and a farm shop located on the site. Therefore, the site's demand for energy is currently minimal. The IID would provide electricity service to the site (i.e., during non-generating hours for the facility). IID meets its annual resource requirements through a mix of the IID-owned generation and a number of purchase power contracts that can take the form of must-take contracts and call options. The IID's generation resources range from hydroelectric resources on the All-American Canal System to San Juan Unit 3, a coal plant in New Mexico to the Palo Verdes Nuclear Generation Station near Phoenix, and a natural gas and diesel generation within or near the District's service territory.

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal includes: decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources.

4.14.2 Impacts and Mitigation Measures

This section presents the significance criteria used for considering project-related land used compatibility impacts and consistency with applicable planning documents, the methodology employed for the evaluation, and mitigation requirements, if necessary.

4.14.2.1 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines and the professional judgment of County staff and consultants, the County concludes that the project would result in significant environmental impacts if it would:

Water Supply

- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

As mentioned previously, it was determined through the preparation of an Initial Study that impacts with regards to solid waste disposal and policies and wastewater treatment would be less than significant. The projects do not include new storm drainage facilities; therefore the Initial Study concluded that the project would not result in an impact with regards to new storm drainage facilities. Therefore, those issue areas will not be discussed further. Impacts associated with water quality are discussed in Section 4.9 of this EIR.

Energy

- Result in the need for new systems or supplies, or a substantial expansion or alteration to electricity, natural gas, or telephone that results in a physical impact on the environment.
- Result in inefficient energy uses of fuel type for each stage of the project including construction, operation, maintenance, and/or removal.
- Result in negative effects on local and regional energy supplies and require additional capacity.
- Result in increased effects to peak and base period demands for electricity and other forms of energy.
- Result in noncompliance with existing energy standards.
- Result in negative effects on energy resources.

4.15.2.2 Methodology

Project-specific data was used to calculate the projects' water consumption during construction and at build-out collectively ("operational"). Imperial Unit water availability has been assessed for a 42-year projection (2012-2054), which is concurrent with the proposed construction and operational life of the projects. This EIR incorporates by reference previously prepared environmental documentation for other solar projects in the project vicinity. This includes the Imperial Solar Energy Center South EIR/Environmental Assessment (EA).

4.15.2.3 Impact Analysis

Water Supply

IMPACT 4.15-1	Construction of New Water Facilities. The projects would utilize water supply from an on-site water system and small water treatment plant.

MSSF1, CSF1(A), CSF1(B), CSF2(A), CSF2(B), OTF-Private and OTF- BLM Lands

As discussed in Chapter 3.0 Project Description, each of the projects propose O&M buildings. However, in some instances, one phase of a project (e.g., CSF1(B)) may rely upon the O&M Building from a previous phase (e.g., CSF1(A)) and not require an additional O&M Building. Each of the proposed O& M buildings would encompass approximately 3200 square feet. The water would be stored in steel tank(s) placed above ground on-site at the water treatment area, under a metal shade structure. The proposed facilities would not require large parcels of land therefore, the water treatment facilities and storage tanks would not result in significant environmental impacts. The off-site transmission lines would not include a water treatment facility. Therefore, a **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.15-2	Increase in Water Demand. The projects would utilize water supply from an on-site water system with water supplies delivered from the Imperial Irrigation District (IID).

Construction Water Usage

MSSF1, CSF1(A), CSF1(B), CSF2(A), CSF2(B), OTF-Private, and OTF-BLM Lands

According to the WSA prepared by Development, Design & Engineering in September 2011, construction of the MSSF1, CSF1(A), CSF1(B), CSF2(A), and CSF2(B) facilities would require approximately 2,400 acre-feet of water (7.82 million gallons) (see Tables 4.15-4, 4.15-6, and 4.15-8 for construction water use for MSSF1, CSF1(A) and (B) and CSF2(A) and (B), respectively). The WSA factored the construction water usage into the annual usage numbers provided in the discussion below. The WSA determined that construction and operation of the MSSF1, CSF1(A), CSF1(B), CSF2(A), and CSF2(B) facilities would not result in impacts to water supply. The WSA concluded that there is sufficient water to construct and operate the facilities. Construction of the OTF-Private and OTF-BLM Lands would require minimal water usage. Water would also be required during decommissioning of the projects and site restoration at the end of the project's 40-year life. However, it is anticipated that this water need would be less than what is required for construction and operation of the projects. A **less than significant** impact is identified.

Operational Water Usage

Table 4.15-2 provides a summary of the annual operational uses for the project study area as a whole.

TABLE 4.15-2. SUMMARY OF ANNUAL OPERATIONAL USES (PROJECT STUDY AREA)

Project Years	Total Annual Use
2012	2,415 acre-feet
2013	1,662 acre-feet
2104	2,148 acre-feet
2015 – 2054 (Operation)	1,310 acre-feet/year

Source: Development, Design & Engineering 2011.

As shown in Table 4.15-2, collectively, the projects are expected to use approximately 1,310 AFY of water for operational use. See Tables 4.15-4, 4.15-6, and 4.15-8 for operational water use for MSSF1, CSF1(A) and (B) and CSF2(A) and (B), respectively. Table 4.15-3 provides a comparison of the agricultural and operational water usage for the combined project study area. As shown in Table 4.15-3, the projects combined would use approximately 94% less water than the current agricultural production.

TABLE 4.15-3. AGRICULTURAL AND OPERATIONAL WATER USAGE COMPARISON FOR THE PROJECT STUDY AREA

		2012		2013		2014		2015-2054	
	Agriculture	Use	Percentage (%)	Use	Percentage (%)	Use	Percentage (%)	Use	Percentage (%)
Delivery Average (2001-2010) Comparison	19,589 acre-feet	2,415 acre-feet	87.67%	1,662 acre-feet	91.52%	2,148 acre-feet	89.03%	1,310 acre-feet	93.31%
2009 Apportionment Comparison	22,208 acre-feet	2,415 acre-feet	89.13%	1,662 acre-feet	95.52%	2,148 acre-feet	90.33%	1,310 acre-feet	94.10%

Source: Development, Design & Engineering 2011.
Note: * The % columns represent the percentage decrease in water use as a result of the proposed projects..

This WSA prepared by Development, Design & Engineering concluded that the IID's water supply in association with the IWSP is sufficient to meet the projects needs. Imperial Unit water availability has been assessed for a 42-year projection (2012-2054), which is concurrent with the proposed construction and operational life of the projects. Since industrial water users in the Imperial Unit have the second highest apportionment priority for water supply available for equitable distribution during years of supply-demand-imbalance, the projects' water supply from IID is considered to be reliable.

As mentioned previously, the IWSP allocates 25,000 AFY for non-agricultural projects, and is to remain in effect pending the approval of policies that will be adopted in association with the Final IWRMP, which is projected to make available up to 50,000 AFY of water for similar uses. The IWSP will be the source of water for the proposed projects unless and until such time as policies and projects perhaps in association with the Final IWRMP are implemented and available so that the applicant may begin to acquire raw water from IID through the Final IWRMP or other means. The WSA determined that IID has adequate polices, programs and projects in place to provide water to agricultural, commercial, industrial and municipal users in the Imperial Unit. Adequate supply is currently available, as well as during normal water years. The IID's Equitable Distribution Plan (EDP) is considered to be sufficient to manage water supply during multiple dry water years. Conservation plans and measures are available to reduce the probability of supply demand imbalance from occurring.

The area that would be taken out of agricultural production as a result of the projects is estimated to use 22,207.5 AFY as farmland based on the calculations presented above, which uses a consumption rate of 5.25 acre-feet per acre per year. Based on the history of water delivered to the same area by the IID from 2001-2010, on average the project study area has received 19,588.73 AFY. The applicant(s) proposes to use 1,310 AFY for operation of the projects. When compared to agricultural water usage for the project study area the result is a decrease in usage at build-out during operation of 94% and 93.31% (Table 4.15-3) when compared to an agricultural consumption rate of 5.25 acre-feet per acre per year, and the average of the IID's 10-year annual delivery history for the same area, respectively. Therefore, the impact is **less than significant.**

MSSF1

Table 4.15-4 summarizes the annual project construction and operational water use based on the information in the Chapter 3.0, Project Description and the WSA for the MSSF1. The facility is projected to have a 40-year life.

TABLE 4.15-4. ANNUAL PROJECT CONSTRUCTION AND OPERATIONAL WATER USE FOR MSSF1

Project Component	Project Years	Construction* (acre-feet)	Operational Use (acre-feet)	Total (acre-feet)
MSSF1	2012	2,200	215**	2,415
	2013-2052	N/A	430	430

Source: Development, Design & Engineering. 2011.
Notes: *Assumes 6-month construction window.
** Projected to use half of estimated annual usage due to 6 months of operation first year.

Table 4.15-5 provides a comparison of the agricultural and operational water usage for MSSF1. As shown in Table 4.15-5, the MSSF1 facility would use approximately 94% less water than the current agricultural production. Therefore, the impact is **less than significant**.

TABLE 4.15-5. AGRICULTURAL AND OPERATIONAL WATER USAGE COMPARISON FOR MSSF1

		Operational Usage			
		1st Year		2nd Year Through Life of Project	
	Agricultural Usage	Use	Decrease*	Use	Decrease*
Delivery Average (2001-2010) Comparison	5,643 acre-feet	2,415 acre-feet	57.20 %	430 acre-feet	92.38%
2009 Apportionment Comparison	7,508 acre-feet	2,415 acre-feet	67.83 %	430 acre-feet	94.27%

Note: *The decrease columns represent the percentage decrease in water use as a result of the project.

CSF1(A) and (B)

Table 4.15-6 summarizes the annual project construction and operational water use based on the information in the Chapter 3.0, Project Description and the WSA for the CSF1(A) and (B) facilities. The facility is projected to have a 40-year life.

TABLE 4.15-6. ANNUAL PROJECT CONSTRUCTION AND OPERATIONAL WATER USE FOR CSF1(A) AND CSF1(B)

Project Component	Project Years	Construction* (acre-feet)	Operational Use (acre-feet)	Total (acre-feet)
CSF1(A)	2013	500	232	732
	2014-2053	N/A	232	232
CSF1(B)	2013	500	N/A	500
	2014-2053	N/A	198	198

Source: Development, Design & Engineering 2011.
Notes: *Assumes 6-month construction window.
** Projected to use half of estimated annual usage due to 6 months of operation first year.

Table 4.15-7 provides a comparison of the agricultural and operational water usage for the CSF1(A) and (B) facilities. As shown in Table 4.15-7, the CSF1(A) and (B) facilities would use approximately 94% less water than the current agricultural production. Therefore, the impact is **less than significant.**

TABLE 4.15-7. AGRICULTURAL AND OPERATIONAL WATER USAGE COMPARISON FOR CSF1(A) AND (B)

	Agricultural Usage	Operational Usage			
		1st Year		2nd Year Through Life of Project	
		Use	Decrease*	Use	Decrease*
Delivery Average (2001-2010) Comparison	7,517 acre-feet	1,232 acre-feet	83.62%	430 acre-feet	94.28%
2009 Apportionment Comparison	6,983 acre-feet	1,232 acre-feet	82.36 %	430 acre-feet	93.84%

Note: *The decrease columns represent the percentage decrease in water use as a result of the project.

CSF2(A) and (B)

Table 4.15-8 summarizes the annual project construction and operational water use based on the information in the Chapter 3.0, Project Description and the WSA for the CSF2(A) and (B) facilities. The facility is projected to have a 40-year life.

TABLE 4.15-8. ANNUAL PROJECT CONSTRUCTION AND OPERATIONAL WATER USE FOR CSF2(A) AND (B)

Project Component	Project Years	Construction* (acre-feet)	Operational Use (acre-feet)	Total (acre-feet)
CSF2(A)	2014	500	288	788
	2015 – 2054	N/A	288	288
CSF2(B)	2014	500	N/A	500
	2015 – 2054	N/A	162	162

Source: Development, Design & Engineering 2011.

Table 4.15-9 provides a comparison of the agricultural and operational water usage for the CSF1(A) and (B) facilities. As shown in Table 4.15-9, the CSF1(A) and (B) facilities would use approximately 94% less water than the current agricultural production. Therefore, the impact is **less than significant.**

TABLE 4.15-9. AGRICULTURAL AND OPERATIONAL WATER USAGE COMPARISON FOR CSF2(A) AND (B)

	Agricultural Usage	Operational Usage			
		1st Year		2nd Year Through Life of Project	
		Use	Decrease*	Use	Decrease*
Delivery Average (2001-2010) Comparison	6,428 acre-feet	1,288 acre-feet	79.96 %	450 acre-feet	93.00 %
2009 Apportionment Comparison	7,718 acre-feet	1,288 acre-feet	83.31 %	450 acre-feet	94.17 %

Note: *The decrease columns represent the percentage decrease in water use as a result of the project

OTF- Private and OTF-BLM Lands

The OTF-Private and OTF-BLM Lands will not require water usage beyond the construction usage analyzed previously. There are **no impacts** associated with operations of the off-site transmission lines.

Mitigation Measure(s)

No mitigation measures are required.

Energy Consumption

IMPACT 4.14-3	Result in the need for new systems or supplies, or a substantial expansion or alteration to electricity, natural gas, or telephone. The projects include the construction of a large utility scale renewable energy facility.

MSSF1, CSF1(A), CSF1(B), CSF2(A), CSF2(B), and OTF

As currently proposed, the power generated by the projects will be delivered to customers in San Diego Gas and Electric's (SDG&E) service territory. The projects would assist SDG&E in meeting California's mandate to procure 20% of its power from renewable resources. SDG&E has voluntarily committed to achieving 33% of its power from renewable resources by 2020. SDG&E's long-term plan includes a portfolio of renewable energy sources including biogas and biomass, geothermal, hydroelectric, wind, solar and fuel cells.

The electricity generation process associated with the projects would utilize solar technology to convert sunlight directly into electricity. Solar photovoltaic technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The projects and OTF would generate and transmit renewable energy resources and is considered a beneficial effect rather than an impact. The use of energy associated with the projects includes both construction and operational activities. Construction activities typically include site grading, clearing, transmission line construction, and transmission tower placement. Operational activities would include energy consumption associated with vehicular use and during generating and non-generating hours for the projects.

The projects would not use natural gas during the construction or operation of the projects. The O&M buildings would include telephone service; however, the usage would be minimal and only operational during normal business hours and emergencies. The projects would not result in the need for additional natural gas or telephone facilities. Therefore, a **less than significant** impact is identified for this issue area.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-4	Result in inefficient energy uses of fuel type. The project will require the consumption of fossil fuels during construction activities.

MSSF1, CSF1(A), CSF1(B), CSF2(A), CSF2(B), and OTF

Construction-Related Energy Consumption

Construction activities consume energy through the use of heavy construction equipment and truck and worker traffic. Table 4.15-10 provides a summary of the typical heavy equipment used during construction. This information is based on the construction discussion in the project description provided in Section 3.0 of this EIR.

TABLE 4.15-10. CONSTRUCTION EQUIPMENT

Construction Phase	Equipment	Number
Grading/Clearing/Hauling	Dozer	1
	Loader	1
	Grader	1
	Water Truck	2
	Dump/Haul Trucks	4
	Scraper	1
	Excavator	1
Underground Utility Construction	Track Backhoe	1
	Loader/Drill	1
	Water Truck	2
	Concrete Truck	8
	Dump/Haul Trucks	2
Solar System Installation	Skid Steer Cat	1
	Hydraulic Crane	2
	Dump/Haul Trucks	4
	Paver	1
	Roller	1

The projects will use energy-conserving construction equipment, including standard mitigation measures for construction combustion equipment recommended in the Imperial County Air Pollution Control District CEQA Air Quality Handbook and discussed in the air quality section, Section 4.3 of this EIR. The use of better engine technology, in conjunction, with the ICAPCD's standard mitigation measures will reduce the amount of energy used for the projects. The standard mitigation measures for construction combustion equipment include:

- Using alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.
- Minimizing idling time either by shutting equipment off when not in use or reducing the time of idling to five minutes as a maximum.
- Limiting the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

- Replacing fossil fueled equipment with electrically driven equivalents (provided they are not run on a portable generator set).
- Construction equipment operating on-site should be equipped with two to four degree engine timing retard or precombustion chamber engines.
- Construction equipment used for the projects should utilize EPA Tier 2 or better engine technology.
- Keeping vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.

Consistent with the intent of AB 32, the projects should demonstrate that there are policies in place that would assist in providing a statewide reduction in CO_2. The following greenhouse gas offset measures have been shown to be effective by CARB and should be implemented wherever possible.

Diesel Equipment (Compression Ignition) Offset Strategies (40% to 60% Reduction)

1. Use electricity from power poles rather than temporary diesel power generators.
2. Construction equipment operating on-site should be equipped with two to four degree engine timing retard or precombustion chamber engines.
3. Construction equipment used for the projects should utilize EPA Tier 2 or better engine technology.

Vehicular Trip (Spark Ignition) Offset Strategies (30% to 70% Reduction)

4. Encourage commute alternatives by informing construction employees and customers about transportation options for reaching your location (i.e. post transit schedules/routes).
5. Help construction employees rideshare by posting commuter ride sign-up sheets, employee home zip code map, etc.
6. When possible, arrange for a single construction vendor who makes deliveries for several items.
7. Plan construction delivery routes to eliminate unnecessary trips.
8. Keep construction vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.

Implementation of ICAPCD's standard mitigation measures and the greenhouse gas offset measures listed above, will ensure that the projects' energy consumption during construction is **less than significant.**

MSSF1, CSF1(A), CSF1(B), CSF2(A), and CSF2(B)

Operational-Related Energy Consumption

The U.S. Department of Energy (USDOE) records on file for all California energy providers indicate that the net energy generation for the state from all sources is approximately 207,984,263 megawatt-hours (MW-h). Tables 4.15-11 and 4.15-12 provide the energy usage during generating and non-generating hours for the proposed projects. Each component would result in similar generating and non-generating hours. These energy usage amounts would be the same for MSSF1, CSF1(A) and (B), and CFS2(A) and (B). The projects would use 3.99 MW-h during generating hours and 5.82 MW-h during the non-generating hours, which is substantially less than the overall state energy usage level. With the use of energy-saving light bulbs and other energy conservation measures, this minimal usage of energy would not result in a significant impact. Furthermore, the electricity generation process associated with the projects would use solar photovoltaic (PV) technology to convert sunlight directly into electricity. Solar

photovoltaic technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The projects would generate renewable energy resources and is considered a beneficial effect rather than an impact. The private and public off-site transmission lines would not have operational energy consumption. Therefore, a **less than significant** impact is identified for operational-related energy consumption.

TABLE 4.15-11. GENERATING HOURS (PEAK ELECTRICITY CONSUMPTION)

	No. of Units	Power Requirements per Unit (W)	Total Power Consumption (kW)
Inverters Tare Losses	200	140	28
Inverter HVAC	200	1,400	280
O&M Building	1	50,000	50
SCADA System	1	5,000	5
Total Power Consumption by Plant (kW):			363.0
Total Electrical Consumption over 11 Hours (MW-h):			3.99

Source: ISE 2000. Imperial Solar Energy Center South Final EIR/EA, Chapter 7, page 7-8.
Assumptions:
Maximum 200 MW_{AC} power production from facility.
Maximum 1000 kW_{AC} voltage inverter size.
HVAC systems required for cooling of inverter assemblies.
Daily total of 11 hours of generation, 13 hours of non-generation.

TABLE 4.15-12. NON-GENERATING HOURS (PEAK ELECTRICITY CONSUMPTION)

	No. of Units	Power Requirements per Unit (W)	Total Power Consumption (kW)
Inverters Tare Losses	200	140	28
Inverter HVAC	200	1,400	280
O&M Building	1	50,000	50
SCADA System	1	5,000	5
House Lighting	485	175	84.9
Total Power Consumption by Plant (kW):			447.9
Total Electrical Consumption over 13 Hours (MW-h):			5.82

Source: ISE 2000. Imperial Solar Energy Center South Final EIR/EA, Chapter 7, page 7-8.
Assumptions:
Maximum 200 MW_{AC} power production from facility.
Maximum 1000 kW_{AC} voltage inverter size.
HVAC systems required for cooling of inverter assemblies.
Daily total of 11 hours of generation, 13 hours of non-generation.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-5	Result in negative effects on local and regional energy supplies requiring additional capacity. The projects are the construction of a large utility scale renewable energy facility.

The projects would assist SDG&E in meeting California's mandate to procure 20% of its power from renewable resources. SDG&E has voluntarily committed to achieving 33% of its power from renewable

resources by 2020. SDG&E's long-term plan includes a portfolio of renewable energy sources including biogas and biomass, geothermal, hydroelectric, wind, solar and fuel cells. Please see analysis discussion under Impact 4.14-1 above. The projects would not result in negative effects on local and regional energy supplies requiring additional capacity. Therefore, a **less than significant** impact is identified.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-6	Result in increased effects to peak and base period demands for electricity and other forms of energy. The projects would not result in increased effects to peak and base period demands for electricity and other forms of energy.

MSSF1, CSF1(A), CSF1(B), CSF2(A), CSF2(B), and OTF

Tables 4.14-11 and 4.14-12 above provide the energy usage during generating and non-generating hours for the proposed projects. Each component would result in similar generating and non-generating hours. These energy usage amounts would be the same for MSSF1, CSF1(A) and (B), and CFS2(A) and (B). The projects would use 3.99 MW-h during generating hours and 5.82 MW-h during the non-generating hours, which is substantially less than the overall state energy usage level. With the use of energy-saving light bulbs and other energy conservation measures, this minimal usage of energy would not result in a significant impact. Furthermore, the electricity generation process associated with the project would use solar PV technology to convert sunlight directly into electricity. Solar PV technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code. The projects would generate renewable energy resources and is considered a beneficial effect rather than an impact. The off-site transmission lines would not have operational energy consumption.

Additionally, implementation of ICAPCD's standard mitigation measures and the greenhouse gas offset measures listed above will ensure that the projects' energy consumption during construction is **less than significant.**

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-7	Result in noncompliance with existing energy standards. The projects would assist SDG&E in meeting California's mandate to procure 20% of its power from renewable resources.

MSSF1, CSF1(A), CSF1(B), CSF2(A), CSF2(B), and OTF

The electricity generation process associated with the projects would utilize solar technology to convert sunlight directly into electricity. Solar photovoltaic technology is consistent with the definition of an "eligible renewable energy resource" in Section 399.12 of the California Public Utilities Code and the definition of "in-state renewable electricity generation facility" in Section 25741 of the California Public Resources Code.

The use of energy associated with the projects includes both construction and operational activities. Implementation of ICAPCD's standard mitigation measures and the greenhouse gas offset measures listed above will ensure that the projects' energy consumption during construction is reduced to a level below significance. The projects would not result in noncompliance with existing energy standards. The

projects would generate renewable energy resources, resulting in beneficial effects. Therefore, impacts would be **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

IMPACT 4.14-7	Result in negative effects on energy resources. The projects would assist SDG&E in meeting California's mandate to procure 20% of its power from renewable resources.

MSSF1, CSF1(A), CSF1(B), CSF2(A), CSF2(B), and OTF

The projects would not result in negative effects on energy resources. The projects would assist SDG&E in meeting California's mandate to procure 20% of its power from renewable resources, which is considered a beneficial impact. Therefore, impacts would be **less than significant**.

Mitigation Measure(s)

No mitigation measures are required.

4.15.3 Residual Impacts

The projects will not result in significant impacts to the water supply or energy resources of Imperial County; therefore, no mitigation is required. The projects will not result in residual impacts.

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